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The Relation of the Vedic Forms of the Dual.—By Dr. George M. Bolling, Catholic University of America, Washington, D. C.

THE beginning of the understanding of the Vedic endings of the dual  $-\bar{a}u$  and  $-\bar{a}$  dates from the article of Rudolf Meringer, Beiträge zur geschichte der idg. declination, KZ, xxviii, pp. 217 ff. In this article Meringer showed clearly that these two forms of the dual were nothing but sentence-doublets of one and the same form, and maintained that their original distribution was faithfully reflected by their occurrence in the Rig Veda:  $-\bar{a}$  before consonants and in pause;  $-\bar{a}v$  before all vowels except u; before u the semi-vowel was lost. An important correction of this view was made by Bechtel, Hauptprobleme der idg. Lautlehre seit Schleicher, p. 285, where he argues that since O. N. átta and Gothic ahtáu can represent neither \*oktō nor \* $\hat{oktou}$ , it follows that the parent language must have possessed also the form  $*o\hat{k}t\bar{o}u$ , a form that is not represented in the Rig Veda except where it is suspected to be of 'later' origin, and that, therefore, the original distribution must have been  $-\bar{o}$  before consonants,  $-\bar{o}u$  before vowels, and  $-\bar{o}u$  in pause. correction of Meringer's theory enabled Bechtel (compare the admirable exposition, op. cit., p. 282) to bring under the same principle the locative forms in  $-\bar{a}$ ,  $-\bar{a}u$ . The application to the perfect forms had already been made by Collitz, AJP. ix, p. The theory thus modified has been accepted by Wackernagel, Altindische Grammatik, p. 107. As the acceptance, however, is not yet universal—compare Brugmann, Grundr. I<sup>2</sup> pp. 203 n., 883, 888—it may be of service to point out another argument that will strengthen Bechtel's position and at the same time illustrate a truth that at the present time needs emphasis on account of an unwillingness in certain quarters to accept its logical consequences, viz., that the dialect of the Rig Veda is not the 'mother dialect' of the dialects on which are based the Atharva Veda, the Brāhmanas, the Sūtras, and in general the later literature.

The point which I hope to make clear is that it would have been impossible for the 'later' language to obtain its duals in -āu if it had ever passed through the stage of development that is represented by what is called 'the oldest portions' of the Rig Veda. Before attempting to show this I will examine two of the most recent discussions of the relations of these forms, the latter of which will involve a question of method. Arnold, JAOS. xviii, p. 347, sees in the form -āu, which he considers 'a note of later date,' the result of a striking process termed "flexional expansion," due to efforts (which in the main he takes to be conscious) 'to introduce distinctness into flexional elements originally slight in bulk and of multiple connotation.' The suggestion contains all the novelty which the author claims for it, but based as it is on the numerical relations of the two forms, its criticism may be found in the article of Meringer already cited, p. 229: "Wenn man sagt und das wird jetzt die landläufige meinung sein: Im R. V. verhalten sich die  $\bar{a}$ - zu den  $\bar{a}u$ - formen wie 1129: 171, also sind die  $\bar{a}$ - formen die alten, aus ihnen entwickeln sich erst die au-formen und gelangen schliesslich zur alleinherrschaft-so ist das ganz falsch und verkehrt." It remains to point out only that if Arnold's conception of the relation of the forms could possibly be true, his conclusion that the  $\bar{a}u$ -forms are indications of late date would be justified. But the manifest error of his premise must of itself tend to shake belief in the justness of his conclusions. the error of this view Arnold himself seems to be partly conscious, since in KZ. xxxvii, p. 446 instances of -āu before vowels are not included in the "Notes of late date."

An attempt of Oldenberg to reconcile Meringer's explanation of the relation of these forms with the theory that those in  $-\bar{a}u$  (except before vowels) are indicative of a late date is found in ZDMG. liv, pp. 187 ff.: "Hinreichend gesicherte grammatische Theorien lehren uns als Anfangspunkt der Entwicklung die Verteilung jener Formen als Satzdoubletten je nach dem vokalischen oder konsonantischen Anlaut des folgenden Wortes kennen. Andererseits als Endpunkt der Entwicklung steht die in der jüngeren Sprache geltende Alleinherrschaft des  $-\bar{a}u$  fest. Zwischen Anfang und Ende kann es nur den typischen Kampf ums Dasein, wie er zwischen Satzdoubletten stattzufinden pflegt, gegeben haben; ein Laxerwerden der alten Sandhiregel, Vordringen der  $-\bar{a}u$ -form muss erwartet werden." From this and

especially the last clause I can only understand that according to the conception of the writer, the form was always  $-\bar{a}u$ , that in the period when the old samdhi rules were strictly applied, that is in the period of the 'Rig Veda proper,' this form before consonants (and in pause) became -ā, but that later the relaxation of these rules allowed  $-\bar{a}u$  to remain under these conditions. But with all the respect due to Oldenberg's opinion, I must submit that this view is in contradiction to one of the clearest principles of linguistic science, namely, that such changes do not take place each time that a word is spoken but that this result is either received from other speakers and then reproduced by memory, or that the form is produced after the analogy of forms so received. It is exactly as if one were to maintain that πέπυσται would have reverted to \*πεπυθται at any time that a relaxation of the Greek 'rules of euphony' had set in (compare Brugmann, Griech. Gram. p. 12). The only way in which one of such sentence-doublets can invade the territory of the other is by the way of analogy, and this brings us back to the question, if the Atharva and the classic literature are the direct developments out of a period, that of the "Rig Veda proper," which had for the dual only  $-\bar{a}v$  before vowels,  $-\bar{a}$  before consonants and in pause, how did the form in  $-\bar{a}u$  develop?

This difficulty was distinctly realized by Meringer, loc. cit., p. 225 ff., and met by the supposition that the form in  $-\bar{a}v$  was analogically transferred to the position before consonants, that in this position it became  $-\bar{a}u$  and was then generalized. view is, in my opinion, untenable for the following reasons: first, on account of the comparative rarity of the ending  $-\bar{a}v$ , because of the rarity of the conditions under which it occurs. This argument in itself is not cogent but must be allowed some weight in connection with the following. Secondly, in the cases of  $-\bar{a}v$  followed by a vowel, the v is drawn over to the next syllable—compare especially the cases of its loss when the following word begins with  $\check{u}$ , which are identical with cases like  $\bar{u}rmis$ >\*uūrmis; Brugmann, Grundr. I' p. 302—hence it is at least extremely improbable that an ending  $-\bar{a}v$  would be abstracted from such a situation.1 Thirdly, this ending  $-\bar{a}v$  would not

<sup>&</sup>lt;sup>1</sup> From  $t\bar{a} \mid vacvin\bar{a}$ , if sufficiently frequent, one might expect the development of \* $vacvin\bar{a}$  or of an euphonic v comparable with the sibilant that appears after a final nasal under certain conditions, but not the extension of a form  $t\bar{a}v$ .

become  $-\bar{a}u$  before all consonants; cf. the medial forms  $v\bar{a}ja-d\bar{a}vn\bar{a}m$ ,  $sahasrad\bar{a}vn\bar{a}m$ ,  $ar\bar{a}vnah$   $somap\bar{a}vn\bar{a}m$ . Yet in spite of the fact that we are supposed to have extensive records of the transition period, no such forms as  $-\bar{a}v$  n- occur. Finally in locatives such as  $agn\bar{a}u$ , in which similar forces are at work, we see clearly that the  $-\bar{a}u$  forms appear in pause before they appear before consonants.

In view of these facts it is much simpler, and in my opinion necessary, to start from the distribution of the forms that Bechtel has proven for the Indo-European, namely, -ō before consonants,  $-\bar{o}u$  before vowels, and  $-\bar{o}u$  in pause; and to assume that we have analogy working in opposite directions in different dialects, whether these dialects be those of different localities or of different social strata of the same locality. dialect which is the basis of the "Rig Veda proper," the result is that  $-\bar{a}$  is extended to the position in pause and in part to the position before vowels; while in the dialect or dialects which are the basis of the Atharva Veda, and of the later literature in general, the form in  $-\bar{a}u$  was extended to the position before consonants. In confirmation of this it may be pointed out that on this hypothesis the forms in  $-\bar{a}$  and  $-\bar{a}u$  will each be so numerous that the operation of analogy in either direction will be easily intelligible.

The first conclusion to be drawn from this is that as we have no means for determining the relative chronology of these changes in the two (or more) dialects concerned, we can draw no inferences as to the time of composition of hymns composed in the different dialects. It remains to be seen whether we can arrive at any criteria that will be of service for arranging the hymns that are composed in the same dialect. To determine this, it will be necessary to examine other forms, and first the To Arnold these are simply the form from which by "flexional expansion" come the duals in -ā, loc. cit., p. 347, and consequently all occurrences fall in his "period A." Mahlow, Die langen Vocale, p. 130, and Meringer, loc. cit., p. 233, consider these forms as originally vocatives, the only use in which they are attested. Osthoff, MU. i, 226 ff., believed that they preserved the ending of the consonantal stems \* $p\bar{a}da$ = πόδε, which had been transferred to the o-stems by analogy. But this fails to explain why the form occurs only as a vocative,

and only in the o-stems, an omission which Brugmann, Grundr. ii, p. 645, tries to make good by assuming the influence of the vocative singular. The hypothesis does not seem to me probable, and I would suggest instead that we have in reality in all cases vocative singulars, that have been misinterpreted at least as far back as the time of the diaskeuasts.

Of the material collected by Lanman, Noun Inflection, p. 342, is to be set aside, first, asta, RV. x. 27. 15. conceals the quantity of the final, but, conceding that the padapātha is correct, asta can be due only to the analogy of sapta (cf. Brugmann, Grundr. ii, 480), nava, daça, all of which occur in this same verse. Of the remaining cases, vi. 63. 1; 67. 8 do not contain the form in the text nor in the padapātha. Here the form in -a cannot be introduced into the text, the first passage containing a nominative which is unparalleled, the second containing an adjective which is also without parallel except for dhrtavrata, i. 15. 6, due to the immediate neighborhood of mitrāvaruna. Nor does the meter require this form. Compare for the first passage Oldenberg, Die Hymnen des Rigveda, p. 467, and apply the same principle to the second, reading ghṛta-annā for ghṛtānnāv. Almost all the other examples are either dvandva compounds or supposed cases of elliptical duals, and any explanation to be satisfactory must do justice to this fact. I would suggest therefore that in mitravaruna, i. 15. 6b, indrāvaruna, i. 17. 3b, 7a, 8a, 9b, we have really two vocatives indrā váruna, (compare, for example, váruna mitra sádathah, v. 67. 2b), and that the shift of accent, whether made by the poets or diaskeuasts, is due to the analogy of mitrāvaruņā, The length of the final syllable of the first vocative may be due to the same cause, but more probably it is a case of an elliptical dual followed by a singular. Compare Delbrück, Grundr. iii, p. 138, and RV. vi. 68. 5b, indrā yó vām varuņa dácati tman with viii. 25. 2, mitrá tánā na rathyà váruņo yác There is no more reason to posit in the former case a vocative dual varuna than a nominative dual varuno or varunas in the latter. In cases like vii. 61. 1a, úd vām cáksur varuna suprátīkam, I believe that we have the invocation of merely one of the deities to suggest the pair "the beautiful eye of ye two, O Varuna." Ultimately the phenomenon rests on the same basis as the use of εἰπέ, φέρε, ἄγε when more than one

person is addressed, explained by Gildersleeve, Syntax of Classical Greek, § 59, as due to the shifting of the speaker's eye. Compare also v. 64.  $6^a$ ; 66.  $6^b$ , and vii. 85. 4, where the epithet  $\bar{a}ditya$  suggests especially Varuṇa. If, on the contrary, varuṇa is explained as  $= varuṇ\bar{a} = mitr\bar{a}varuṇ\bar{a}$ , it controverts the principle (cf. Delbrück, l. c., p. 137) that the last member of a dvandva compound cannot be used elliptically.

Apparently more strange are the cases in which, instead of the names of one of the pair, an epithet applicable to both is employed in the singular, asura, i. 151. 4; deva, vii. 60.  $12^a$ ; viii. 9.  $6^b$ ;  $p\bar{a}\acute{u}ra$ , v. 74. 4;  $v\bar{v}ra$ , vi. 63.  $10^c$ . The same principle is still applicable here, though it must be noted that in these cases, except the last, the short vowel is not demanded by the meter. If it is correct, it may be that we have here only imitations of an archaism that was not fully understood. Finally, in v. 67. 1, three gods are invoked, varuna, mitra, aryaman, and deva may be singular applying to the last, while  $\bar{a}dity\bar{a}$  naturally applies to the two first. The concordance is further irregular in having a dual verb.

There remains, then, as a possible criterion for later date within the hieratic language itself, the extension by analogy of the forms in  $-\bar{a}$  to the position before vowels. At first sight it seems tempting to suppose that this analogical process leading to the obliteration of the last trace of  $-\bar{a}u$  took place at the end of the period of the "Rig Veda proper." Further consideration, however, will show that this is not necessarily the case. We are dealing with an artificial language, and this impulse toward a more rigid uniformity may have manifested itself at an early time and failed to become universal, or it may have proceeded from different individuals at different times. sides, there is the possibility that forms such as pade 'va are not analogical but contain the old form of the dual of consonant stems =  $\pi \acute{o}\delta \epsilon$  (compare Meringer, loc. cit., p. 230), which has elsewhere been superseded by the endings of the o-stems. Finally, there is the possibility that some of these forms are of the latter, some of the former origin, and we have no means of deciding which are which. Under the circumstances it seems impossible to use even these forms as criteria of date. having touched on the subject of the consonant duals, I will call attention to one force which, though commonly overlooked.

must have been at work in their development. The current view is that \* $p\bar{a}da = \pi \delta \delta \epsilon$  fell under the analogy of  $acv\bar{a}$   $acv\bar{a}u$  $acv\bar{a}v$  merely on account of their identity of function. identity of form must also have been brought about, in some cases, as follows: \* $nara = \vec{a}\nu \epsilon \rho \epsilon$ , and other words with short penult, would be liable to rhythmic lengthening before single consonants, resulting in the sentence doublets \*nara narā, \*acvina  $acvin\bar{a}$ , etc. The latter form was then generalized. and under its influence \* $p\bar{a}da$  was supplanted by  $p\bar{a}d\bar{a}$ . After this the proportion  $acv\bar{a}$ :  $acv\bar{a}u$ :  $acv\bar{a}v = p\bar{a}d\bar{a}$ : x vields the forms  $p\bar{a}d\bar{a}u$  and  $p\bar{a}d\bar{a}v$ . That the form  $p\bar{a}d\bar{a}$  for  $p\bar{a}d\bar{a}v$  before vowels is a relic of the older period, and that  $hast\bar{a}$  in the same position is analogical to it, is possible, but there is no numerical predominance of the consonantal stems in such positions, such as would have tended to support this view. I am therefore inclined to believe that the difference between the a-stems and other stems in this form was completely obliterated at an early period, though the other possibility must remain, rendering uncertain any employment of these forms as a criterion of date.